

RECEIVED  
CENTRAL FAX CENTER  
JAN 02 2008

Docket No. F-8636

Ser. No. 10/529,941

**AMENDMENTS TO THE CLAIMS:**

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently Amended) A fan with ring comprising:

a cylindrical ring portion having a generally cylindrical outer face, said cylindrical outer face having a first end and a second end; and

a plurality of blade portions located within the ring portion and projected radially from a boss portion, wherein

the fan with ring comprises connection portions constituted by connecting in one piece part of a front end edge of each of the blade portions with part of an edge of the ring portion,

the blade portions, the ring portion, and the boss portion are molded in one piece from a press-molded form of a single metal plate,

a blade surface of each of the blade portions has a sloped plane twisted relative to a plane of the boss portion, and

the connection portions at the front ends of the blade portions are formed in one piece such that sloped concave portions, that are diagonally depressed, with edges included in the ring portion, are flush with the sloped planes,

said first end of said cylindrical outer face comprises outer peripheral arcuate segments.

Docket No. F-8636

Scr. No. 10/529,941

said edges of said sloped concave portions which are included in the ring portion are continuous with said arcuate segments, said edges of said sloped concave portions extending away from said first end of said cylindrical outer face towards said second end of said cylindrical outer face, said edges of said sloped concave portions converging from respective said arcuate segments towards said second end of said cylindrical outer face.

2. (Canceled).

3.(Previously Presented) A method of manufacturing a fan with ring comprising:

plastically working a metal plate into a shallow pan shape so as to form a cylindrical ring portion on a periphery of said pan shape;

forming notches inside of the pan bottom at positions corresponding to front end edges of blade portions at a boundary between a bottom edge of the pan and the periphery of the ring portion of the pan, the notches not stretching to an outer surface of the metal plate;

forming a boss portion at a center of a bottom portion of the pan shape;

slitting and forming blade portions radially from the boss portion;

Docket No. F-8636

Ser. No. 10/529,941

and cutting around blade and ring portions except for part of a front end edge of each of the blade portions, part of the edge of the ring portion for use as connection portions, and a part connecting the blade portions with the boss portion.

4.(Previously Presented) A method of manufacturing a fan with ring comprising:

plastically working a metal plate into a shallow pan shape so as to form a cylindrical ring portion on a periphery of said pan shape;

forming notches inside of a pan bottom at positions corresponding to front end edges of blade portions at a boundary between a bottom edge of the pan and the periphery of the ring portion of the pan, the notches not stretching to an outer surface of the metal plate;

forming a boss portion at a center of a bottom portion of the pan shape;

cutting at least contours of both edges along sides of each of blade portions in order to form a plurality of blade portions radially from the boss portion;

cutting around blade and ring portions, except for part of a front end edge of each of the blade portions, part of the edge of the ring portion for use as connection portions, and a part connecting the blade portions with the boss portion; and

twisting each of the blade portions relative to the boss portion.

Docket No. F-8636

Ser. No. 10/529,941

5.(Previously Presented) A method of manufacturing a fan with ring comprising:

plastically working a metal plate into a shallow pan shape so as to form a cylindrical ring portion on a periphery of said pan shape;

forming notches inside of a pan bottom at positions corresponding to front end edges of blade portions at a boundary between a bottom edge of the pan and the periphery of the ring portion of the pan, the notches not stretching to an outer surface of the metal plate;

forming a boss portion at a center of a bottom portion of the pan shape;

cutting all contours of a plurality of blade portions except for both edges along a width of each blade portion and part of a front end portion of each of the blade portions in order to form a plurality of blade portions radially from the boss portion;

forming enlarged hole portions at edges of the front end portions adjacent to connecting portions;

cutting around the blade and ring portions, except for part of a front end edge of each of the blade portions, part of the edge of the ring portion for use as connection portions, and a part connecting the blade portions with the boss portion;

and

twisting each of the blade portions relative to the boss portion.

Docket No. F-8636

Ser. No. 10/529,941

6.(Currently Amended) A method of manufacturing a fan with ring comprising:

plastically working a metal plate into a shallow pan shape so as to form a cylindrical ring portion on a periphery, said ring portion having a generally cylindrical outer face, said cylindrical outer face having a first end and a second end;

forming a plurality of sloped concave portions for formation of blade portion sloped surfaces on an outer side of a pan bottom, the sloped concave portions being evenly spaced apart from one another along a circumference and being depressed radially from a center of a pan bottom, with edges of the sloped concave portions included in peripheries of the pan shape, said first end of said cylindrical outer face comprising outer peripheral arcuate segments and edges of said sloped concave portions being continuous with said arcuate segments, wherein said edges of said sloped concave portions extend away from said first end of said cylindrical outer face towards said second end of said cylindrical outer face, said edges of said sloped concave portions converging from respective said arcuate segments towards said second end of said cylindrical outer face;

forming the boss portion at a center of a bottom portion of the pan shape;

slitting and forming blade portions radially from the boss portion such that the sloped concave portions constitute part of the respective blade portions; and

cutting around the blade and sloped concave portions, except for a part connecting the blade portions with the boss portion, and a boundary between at least

Docket No. F-8636

Ser. No. 10/529,941

a front edge portion of each of the blade portions and the ring portion for use as a connection portion, such that the boundary constitutes the sloped concave portion itself.

7. (Canceled).

8.(Currently Amended) A method of manufacturing a fan with ring comprising:

plastically working a metal plate into a shallow pan shape so as to form a cylindrical ring portion on a periphery;

forming a plurality of sloped concave portions for formation of blade portion sloped surfaces on an outer side of a pan bottom, the sloped concave portions being evenly spaced apart from one another along a circumference and being depressed radially from a center of a pan bottom, with edges of the sloped concave portions included in peripheries of the pan shape;

forming the boss portion at a center of a bottom portion of the pan shape;

slitting and forming blade portions radially from the boss portion such that the sloped concave portions constitute part of the respective blade portions;

cutting around the blade and sloped concave portions, except for a part connecting the blade portions with the boss portion, and a boundary between at least a front edge portion of each of the blade portions and the ring portion for use as a

Docket No. F-8636

Ser. No. 10/529,941

connection portion, such that the boundary constitutes the sloped concave portion itself; and ~~The method of manufacturing a fan with ring according to claim 6, further comprising:~~

forming notches inside of the pan bottom at positions corresponding to front end edges of blade portions at a boundary between a bottom edge of the pan and the periphery of the ring portion of the pan, the notches not extending to an outer surface of the metal plate.

9. (Previously Presented) A fan with ring produced according to the method of claim 3.

10. (Currently Amended) A fan with ring comprising:

a cylindrical ring portion; and

a plurality of blade portions located within the ring portion and projected radially from a boss portion, wherein

the fan with ring comprises connection portions constituted by connecting in one piece part of a front end edge of each of the blade portions with part of an edge of the ring portion.

the blade portions, the ring portion, and the boss portion are molded in one piece from a press-molded form of a single metal plate.

Docket No. F-8636

Ser. No. 10/529,941

a blade surface of each of the blade portions has a sloped plane twisted relative to a plane of the boss portion,

the connection portions at the front ends of the blade portions are formed in one piece such that sloped concave portions, that are diagonally depressed, with edges included in the ring portion, are flush with the sloped planes, and ~~The fan with~~  
ring according to claim 1; wherein

said sloped concave portions extend to a portion of an outer side of said ring portion, and concave surfaces of said sloped concave portions face away from said ring portion.

11. (Currently Amended) A method of manufacturing a fan with ring comprising:

plastically working a metal plate into a shallow pan shape so as to form a cylindrical ring portion on a periphery;

forming a plurality of sloped concave portions for formation of blade portion sloped surfaces on an outer side of a pan bottom, the sloped concave portions being evenly spaced apart from one another along a circumference and being depressed radially from a center of a pan bottom, with edges of the sloped concave portions included in peripheries of the pan shape;

forming the boss portion at a center of a bottom portion of the pan shape;



Docket No. F-8636

Ser. No. 10/529,941

slitting and forming blade portions radially from the boss portion such that the sloped concave portions constitute part of the respective blade portions; and  
cutting around the blade and sloped concave portions, except for a part connecting the blade portions with the boss portion, and a boundary between at least a front edge portion of each of the blade portions and the ring portion for use as a connection portion, such that the boundary constitutes the sloped concave portion itself ~~The method of manufacturing a fan with ring according to claim 6, wherein said~~  
sloped concave portions extend to a portion of an outer side of said ring portion, and concave surfaces of said sloped concave portions face away from said ring portion.